

1965 Michael Marcus of Purity Oil Sales, Inc.

Chronology  
1948 Paraco Oil, Inc. - William Siegfried #  
W. DICKFEE, Ray Turner Robert Hall

September 1964

The Department of Industrial Relations and Fresno County Health Department conducted an inspection; filed suit in Superior Court for emission of odors.

April 1969

A fire occurred in oil sump; State Division of Forestry requested covering unused sumps.

March 1970

Fresno County Air Pollution Control District (FCAPCD), Fresno County Health Department, and Regional Water Quality Control Board (RWQCB) met with the site manager to discuss odor complaints.

May 1970

RWQCB requested a waste discharge report.

April 1972

FCAPCD, RWQCB, and the site manager met to discuss a correction proposal.

January 1973

FCAPCD inspection reported that: "Abatement efforts were only adding to problems already present."

February 1973

The salvage company filed suit against Purity Oil for damages from oil running onto its property.

March 1973

FCAPCD investigation showed an employee attempting to pump oil and water from sumps into irrigation ditch south of property.

May 1973

The State Air Resources Board (ARB) and Fresno County issued a compliance order to empty oil sumps, install new sumps, repair leaks, and enclose acid treatment tanks.

Purity Closes

April 1974

RWQCB inspection disclosed discharge to unlined sumps and prohibited plant from improper waste disposal.

June 1974

Fresno County inspected the plant and found oil, acid sludge, and water ponded on site.

June 1974

The Fresno County Superior Court reimposed a preliminary injunction prohibiting Purity Oil from operating.

January 1975

The Fresno County District Attorney advised the company to cease operation by January 31, 1975.

1975  
September 1976

Site held by State for taxes - EDIS JOHNSON  
MICHAEL MARCUS  
Fire destroyed one of the buildings on site and some of the tanks.

March 1977

Division of Building and Safety Inspection deemed the area unsafe.

William Enns

1979  
January 1980

Fresno County declared the property a nuisance and gives new owner (Enns) 30 days to abate nuisance.

45002

January 1980	Fresno County Health Department notified residents of the mobile home park of the hazards on site.
March 1980	Fresno County informed Enns that a demolition order had been prepared because of failure to abate the nuisance.
October 1980	The Hazardous Waste Management Branch (HWMB) Enforcement, RWQCB, and Fresno County Health Department met to discuss site history.
November 1980	HWMB Enforcement requested a clean-up plan.
January 1981	RWQCB sampled two water wells downgradient from the site; hazardous wastes were not detected. In addition, soils were tested to 16 feet; tests indicated a high concentration of lead and PCBs to 1½ feet.
January 1981	The Environmental Protection Agency/Environmental Response Team (EPA/ERT) conducted site investigation.
February 1981	The HWMB Enforcement office and RWQCB met; HWMB continued as the lead agency.
February 1981	HWMB Enforcement contracted to fence site.
July 1981	HWMB Enforcement and Fresno County Health Department met to discuss the site.
October 1981	HWMB Enforcement requested additional Fresno County Sheriff's patrols on site.
October 1981	HWMB Enforcement advised residents of mobile home park of hazards on site.
October 1981	HWMB Enforcement, Fresno County Irrigation District, and the Atchison, Topeka, and Santa Fe Railway met to discuss off-site migration of waste onto property under their respective control.
December 1981	The community held a Toxic Waste Forum that included then Assembly member Art Torres, Dr. Phil Polakoff, and others; and Tom Bailey.
February 1982	EPA/ERT sampled the site. The black, tarry substance contained trichlorethylene, tetrachloroethylene, and methylene chloride. Two of the seven water wells contained 1,1 dichlorethane, 1,2 dichloroethane, and dichloroethylene. Soil samples contained high levels of soluble sulphur, oil, and grease, and lead and chlorinated organics.
January 1983	The State announced a new site-ranking list. The Purity site was first on the state list.
March 1983	Commencement of epidemiologic study of community health undertaken by Epidemiological Studies Section, DHS.

45003

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*This shows how they  
Keep there promises  
Please watch*

45004

Potential Immediate Hazards Associated with the Purity  
Oil Sales Site, Malaga, Fresno County, California

2/11/85  
B3c  
000122

The Department of Health Services (DOHS) has requested that EPA provide funding to perform several initial remedial measures to alleviate potentially serious safety problems associated with the Purity Oil Sales site. These potential problems were observed during the on-site activities associated with the remedial investigation, which EPA is funding. However, since the proposed actions involve removing materials to an off-site Class I disposal facility, they cannot be funded as initial remedial measures unless a focused feasibility study is conducted and a formal Record of Decision is approved. The focused effort required to obtain approval for these interim actions could delay the completion of the overall feasibility study for the site and subsequent final remedial action. Therefore, the Superfund Programs Branch would like to pursue the possibility of EPA performing these actions through its emergency response authorities.

DOHS requested funding for four separate actions, one of which was already completed concurrently with the remedial investigation activities conducted on-site. A brief description of the remaining three problems is presented below:

1) Existing open sump on-site: An existing open deep sump (20 feet x 55 feet x 5 feet) located in the front-yard area of the site contains oily waste (probably mixed with surface runoff water). This existing sump is a potential safety hazard to anyone who may be on-site (both authorized or unauthorized). Although the site is presently fenced, the fence has been cut in the past and children living nearby have been seen on the site. There are also areas in which children could climb over the fence. In an attempt to stop this from happening, the Fresno County Sheriff's Department (at DOHS's request) patrols the area around the site daily. In addition to the potential safety hazard, volatile organic emissions may occur during the hot summer months. Unfortunately, the contents of the sump was not sampled nor were surface air emissions measurements taken during the remedial investigation, because the lack of harness equipment did not allow such sampling to occur due to safety considerations.

DOHS has proposed removing the oily waste from the sump and disposing of it at a Class I disposal facility. The attached map shows the exact location of this sump on the Purity site.

2) Waste materials seeping into the North Central Canal: During site investigation activities, several areas were identified where oily/tarry waste was observed to have migrated off-site. Samples of this material indicated that the waste had the following general characteristics: very low pH (often <2.0); high levels of priority pollutant metals; and high levels of oil & grease and organic compounds, including many priority pollutants. In addition, quantitative surface air emissions measurements indicated that at some locations significant sulfur dioxide and organic compound

## DECISION SUMMARY

### I. SITE NAME, LOCATION AND DESCRIPTION

The 7 acre Purity site is located about one-half mile south of the city limits of Fresno (Figure 1). The site is located in the center of California's San Joaquin Valley. The Purity site operated as a used oil recycling facility from 1934 to the early 1970's. *Permits for oil - not toxic dump where's Permi<sup>n</sup>*

The site is located in a predominantly industrial area, but has some adjacent residential properties. Properties immediately adjacent to the site include railroad tracks, a scrap metal yard, a residential trailer park, a small market, a propane distributor, a small farm, several residences, and a used auto salvage yard (Figure 2). It is estimated that the auto salvage yard has 72 employees and is visited by 22,000 customers each month. Approximately 180 residents live in the trailer park. The trailer park has about 50 trailers and 10 cabins. Some trailers are located immediately adjacent to the site fence. The small market has a backyard and residential apartment. Immediately southeast of the site are three houses with two or three people living in each house.

Under the Fresno County General Plan, the Purity site is in a zone defined as heavy industrial and is intended to provide for all manufacturing uses, including the heaviest and most intensive types. Fresno County is proposing to create an enterprise zone within the next 15 years, encompassing the Purity site and surrounding land. Future industrial-commercial development around the site could be extensive under this program.

About one-half mile to the west and southwest of the site are fields of oats, alfalfa, cotton, fruit trees, and grapes. The town of Malaga, which has a medium density residential area, surrounds the site at distances of about one-half mile and more.

The Purity Oil site is located in the San Joaquin River drainage basin. The San Joaquin River is approximately 12 miles north of the Purity site. There are no natural water-courses in the vicinity of the Purity site. Several irrigation canals flow in the region, including the North Central Canal along the southern site boundary. The North Central Canal is a lateral of the Central Canal. The Central Canal eventually dead-ends approximately 10 miles from the Purity site and has no outlet to any surface drainage course. *River of water under the town that's*

The groundwater aquifer in the Fresno area has been designated as a sole-source aquifer by EPA under the Safe Drinking Water Act. The Fresno sole-source aquifer is bounded by the San Joaquin River to the north, Friant-Kern Canal to the east, Fresno

*We have a high rate hepatitis, Babies  
1  
new born, at three weeks get a shot for  
Hepatitis*

very limited organic analyses (phenol and freon) have been conducted for canal water.

#### Air Exposure Pathways

Some of the contaminants detected at the Purity Oil site are volatile organic compounds and represent a potential source of exposure to hazardous vapors. In addition, the high concentrations of certain inorganics (e.g., lead) in onsite soils represent a potential exposure source as particulate material. Contaminant exposure ~~could~~ occur if contaminants are inhaled by onsite workers, near-site residents, site trespassers, and future onsite residents as vapors or dusts (contaminants sorbed to particulates).

Ambient air quality testing was performed in 1982 by the Air and Industrial Hygiene Laboratory and the Hazardous Waste Management Branch of the California Department of Human Services (HLA, 1985). In this study, upwind and downwind air samples were collected and analyzed. Downwind samples were collected 5 feet off the ground, 20 feet from an open pit. A summary of test results is presented in Table 8. The study detected measurable particulates downwind of the site; however, no substantial differences in chemical quality were observed between upwind and downwind dust samplings analyzed for SO<sub>2</sub>, total volatiles, total organics, sulfates, lead, zinc, copper, chromium, and cadmium (USEPA, 1982). The downwind sample results for total volatiles, PCBs, lead, zinc, copper, chromium, and cadmium were below detection (see Table 8 for detection limits).

#### Soil Exposure Pathways

Soil exposure pathways involve receptors coming into physical contact with site waste materials or contaminated soil (surface soil or deep soil). The primary routes of exposure to contaminated site soils include incidental soil ingestion and dermal contact.

Site trespassers and people involved with potential future residential or occupational development of the Purity Oil site ~~could~~ be exposed to contaminated site soils. People who trespass onto the site ~~could~~ be exposed to surface soil contaminants. Although the site is totally surrounded by a chain-link fence, site workers have observed openings in the fence where access ~~could~~ occur. The most likely trespassers are local children who enter the site to play or walk through the site to the motocross (off-road bicycle or motorcycle) area just west of the property.

Future site development could also result in direct contact with soil contaminants. Development possibilities include residential (rental units, mobile homes, etc.) and commercial site (truck yard, manufacturing plant, etc.) uses. The extent

F1c

Date: December 22, 1981

To: Robert P. Withrow, M.D., M.P.H.  
Director of HealthFrom: Clayton Auerheimer, R.S., Associate Director  
Environmental Health System

Subject: Purity Oil

Dr. Jim Stratton, State Department of Health Services, called on December 18 to talk about the Malaga Community meeting which was held on December 5. Jim had been one of the speakers at the meeting, and as a result of the meeting, he feels that some type of study should be conducted. The study should have three phases: 1. The development of the control base so that they have a logical populus and area for the control group; 2. A census of the area around Purity Oil where they would ask open ended questions; 3. Possible physical examinations and additional questions very likely aimed at the mobile home park residents. He is thinking in terms of blood and urinary analyses of all the children in the park.

We talked about a number of other items, such as who was in control of the mobile home park. One of the immediate actions the State/County could take would be to exercise their power of eminent domain and vacate the mobile home park. We may want to think in terms of the mobile home park and whether or not it meets the minimum standards of the Mobile Home Park Act.

Since there were quite a few complaints about the site, including what Jim described as illness to two of the State workers who had been on the site mid-July, as well as the medical survey that Sequoia Health Clinic did all lead to an interesting problem which could be addressed by a health/medical survey as described above.

At the meeting in Malaga Jim Stahler from Hazardous Materials Division of the State Health Department indicated that it was a State problem. Jim asked who would be our medical contact, and I referred him to Donn Cobb. Since Larry Oberti will be presenting the information from the Malaga meeting at our January 6 Director's Staff meeting at 10:30 a.m., we may want to touch briefly on the concerns of Dr. Stratton.

CA:nl

cc: Associate Directors  
Norm Covell  
Clint Jones  
Larry Oberti



in 1942 (Pit 4) was converted to a waste pit for collecting spills from storage tanks, and a waste pit was added west of the warehouse. Additional storage tanks along the southern boundary of the main processing area are also visible in the 1950 photograph.

The waste pit west of the warehouse was present only in a 1957 photograph. New waste pits in the center and in the southwest corner of the main processing area remained visible through 1965 as shown on Figure 1-6.

By 1970, the original waste pit (Pit 4) appeared to be full, the tanks along the southern boundary had been removed, and only three of the six vertical tanks along the western edge of the processing area remained. One of the three waste pits visible from 1950 to 1967 was no longer seen in 1970. In June 1973, Purity Oil complied with the Fresno Superior Court orders to empty and backfill the oil waste pits in the western area of the property. The September 1973 aerial photograph shows that about half of the easternmost waste pit (Pit 4) was backfilled. However, there is no evidence that the waste pits were emptied before being backfilled.

By January 1975, the waste pits had been backfilled with construction demolition debris including soil, bricks, concrete, steel, wood, and tires. By 1982, the site had been abandoned, and oil residue seepage was visible from the backfilled pits.

The main processing area was also contaminated with oil and oil residue throughout the plant operation. Waste pits to collect spillage were located in the main processing area. A composite sketch of waste pit locations from 1942 to 1973 is shown in Figure 1-7.

From February to May 1985, and in September 1987, EPA conducted removal actions at the site that consisted of removal of State of California RI-generated contaminated material (sixty-seven 55-gallon drums of drilling cuttings), about 1,800 cubic yards of solid hazardous material, and approximately 25,000 gallons of oil/water mixture. The hazardous solid material came from Pits 2 and 7c and other surface seeps of oily/tarry material. The oil/water mixture came from a weak above-ground storage tank.

The majority of the original structures and features of Purity Oil have been removed or backfilled with construction debris. During the State of California RI fieldwork, only two open pits, Pits 2 and 7c (Figure 1-3), and seven vertical tanks remained on the site.



or information already collected/presented may permit the omission of unnecessary data from the checklist. These specifics can be discussed with the Regional ATSDR Representative. For guidance on specific sampling strategies and the establishment of appropriate detection limits, ATSDR references the "Draft Data Quality Objectives Development Guidance for Uncontrolled Hazardous Waste Sites Remedial Response Activities," dated October 1986 (OSWER Directive 9355.07A). Particularly for the analysis of groundwater samples, detection limits should be based upon human health end points.

To answer EPA's question concerning the health effects of certain nonpriority pollutants, a computer search of TOXNET was conducted on the 91 listed compounds. Toxicity data is not available for a large portion of the chemicals listed. Of the ten chemicals found in TOXNET, limited toxicity data was available. Most chemicals were found to be sensory irritants with LD50s in various rodent species ranging from 50 to 4000 mg/kg. Toxicity data, in and of itself, cannot be used to determine the presence of a public health threat, since many additional factors, including environmental pathways and human exposure pathways, require evaluation before a determination of the presence or absence of a public health threat can be made. In the future, in order to ensure proper computer searches, the Chemical Abstract Service number should be submitted along with the chemical name.

#### CONCLUSION

The situation at the Purity Site presents a potential public health threat. Since the extent of ambient organic emissions from undisturbed areas remains approximately two to three orders of magnitude below specific TWA-TLVs, the presence of any health effects from organic vapors is unlikely. A history of noxious odor complaints from the surrounding population, along with on-site measurements of SO<sub>2</sub> levels greater than NAAQS or CAAQS criteria, may indicate the potential for health problems. ATSDR recommends that EPA abide by California regulations while performing any soil disturbance activity. ATSDR refers EPA to Mr. Robert Dowell, the program manager for the Fresno Air Pollution Control Board (phone #209-445-3239). The increased gaseous release of SO<sub>2</sub> and volatilization of organic compounds during soil disturbance activity does present a potential health threat to on-site workers and to the surrounding population. Populations at special risk to low levels of SO<sub>2</sub> may be young children and persons with chronic obstructive pulmonary diseases, including asthma, chronic bronchitis, and emphysema. The degree of dilution of air contaminants would determine off-site exposure levels. During the initial RI, atmospheric monitoring at the site perimeter or in residential areas adjoining the site was inadequate for assessing inhalation exposure to air contaminants for the surrounding population.

*They use the trailers for the reason  
to the exposure of SO<sub>2</sub>. money takes  
 Guinea pigs.*

roethene, trichloroethane, trichloroethylene, and tetrachloroethylene being within one order of magnitude of the TWA-TLV level.  $\text{SO}_2$  levels increased to  $9,946 \text{ mg/m}^3$  in Trench 1. Again, it must be emphasized that these were concentrations within the Trench and not levels to which the surrounding population was exposed. The LCLo (lowest lethal concentration) for  $\text{SO}_2$  inhalation in humans is  $1047 \text{ mg/m}^3$  for 1 minute, while the TCLo (lowest toxic concentration) is  $10.5 \text{ mg/m}^3$  for 1 minute. Therefore, workers performing on-site sampling or remedial activity involving soil disturbance can encounter injurious or even lethal concentrations of  $\text{SO}_2$ . Data characterizing downwind concentrations at various distances from the site activity were not available to determine the degree to which the surrounding population might have been exposed to  $\text{SO}_2$  emissions, but during one borehole operation, noxious odor complaints were registered by individuals in the adjoining Tall Trees Trailer Park. It should be noticed that downwind concentrations of  $\text{SO}_2$  during soil disturbance activity may exceed NAAQS or CAAQS criteria.

Persons with chronic obstructive pulmonary diseases (including asthma, chronic bronchitis, and emphysema), as well as young children, may be at increased risk from low level exposure to  $\text{SO}_2$  (Schenker, et al., 1986). Studies have shown that  $\text{SO}_2$  is a bronchoconstrictive irritant gas which can affect people with asthma at concentrations of  $1,310 \text{ ug/m}^3$  and perhaps as low as  $262 \text{ ug/m}^3$ , if subjects are exposed while exercising (Sheppard, et. al., 1980, 1981). The findings of Schenker, et al., as well as those of the Harvard Six Cities Study (Ferris, et. al.), suggest that at long-term average concentrations of  $\text{SO}_2$  up to  $100 \text{ ug/m}^3$ , an effect is not detected in cross-sectional epidemiological studies analyzing for chronic cough or phlegm. There may be a small increase in the prevalence of wheeze associated with  $\text{SO}_2$  concentrations near  $100 \text{ ug/m}^3$  (Schenker, et. al., 1983).

*where this family you found the cause they are poor they can't afford to move out of the area*  
The potential for site runoff to the North Central irrigation canal to affect the health of the surrounding population cannot be adequately evaluated from the data available. A more detailed analysis of canal water and sediment, along with an investigation of downstream canal usage, is required to define any problems (subject of supplemental RI, see work plan discussion below). *slowly but surely your crops and water get it to 25 ppm each*

On-site soil contamination was shown to consist of highly contaminated areas of lead (maximum =  $21,000 \text{ ppm}$ ) and oil and grease (maximum =  $540,000 \text{ ppm}$ ). The degree to which the entire site has been cleaned by the EPA Emergency Response Team was unclear in the RI; therefore, the potential for on-site contribution to migration of contaminants to both off-site soil and water is difficult to estimate. The presence of an aquifer 40 feet below ground level certainly increases the potential for off-site migration of eluted contaminants. The extent of an off-site migrating contaminant plume was not adequately determined by the RI.

## INTERESTED PARTIES AND KEY CONCERNS

### Local Residents

As part of the onsite interviews conducted for this plan, community relations staff met with five members of the Malaga Community Committee on Purity Oil on December 1, 1983. All members present were from Malaga; a member who lives in the mobile home park was not able to attend. The committee members discussed the following issues, which they believe are of concern to many Malaga residents. The committee believes these concerns are shared by the mobile home park residents, but suggested that residents be contacted directly.\*

- People's main concern is the health hazards associated with possible air, groundwater, and irrigation water contamination. The community appears to have a large incidence of birth defects, cancer, and other illnesses. They would like to know more about the community's health profile and the possible causes of illness.
- Studies and tests have been occurring for years, but no action has been taken. Why are still more studies necessary? When will something be done?
- The committee and the community in general are not receiving adequate or consistent information. Many staff persons from the county and state have talked with them, but no followup or results occur. The committee has heard nothing about the health survey since May 1983, when the DOHS Epidemiologic Studies Section asked them to appoint an ad hoc committee to discuss the survey. The committee wrote back in June to designate ad hoc committee members, but received no acknowledgment or further communication.
- Why was the contamination allowed to happen in the first place? The government ensures that individuals comply with regulations; why isn't big industry also forced to comply?

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\* Esther Padilla suggested during her interview that contact with residents at the mobile park home be made through her, since she is familiar with the community. See Technique 1 in Section C.

*She ended up with  
breast cancer and  
had to step down.*

but resumed in 1980 when testing by the county and the Department of Health Services (DOHS) disclosed site contamination. *16 yrs later, my God.*

In January 1980, the County Department of Health went door-to-door to advise residents of the Tall Trees Mobile Home Park to keep away from the site because of the hazards of direct exposure. In October 1981, DOHS again advised trailer park residents of the hazards. *They should have been told to move.*

In March 1981, the Sequoia Community Health Foundation conducted a health screening clinic in Malaga. According to Esther Padilla, an employee of the health foundation at that time, the clinic was conducted to reach a generally underserved area and was not a result of specific concerns about the Purity site. Approximately 75 persons were screened; 1 family was from the trailer park, and the rest from Malaga. Hematuria (blood in the urine) was detected in 11 persons, and 3 or 4 recent fetal deaths among Malaga residents were reported. Residents also complained of headaches, nausea, and vision problems. The health foundation contacted the Fresno County Department of Health, which agreed to follow up on these findings and report its findings to DOHS. In September 1981, the county reported that the observed morbidity of residents was not out of the ordinary and that no observed occurrences were statistically significant.

The health foundation contacted the California Rural Legal Assistance--Migrant Farmworker Project (CRLA), to inform CRLA of the health screening findings and to discuss what action could be taken. The two agencies decided to focus on community education and organization. In December 1981, the agencies helped form the Malaga Community Committee on Purity Oil, a citizens' group with about 10 members. The health foundation also contacted the Malaga County Water District, whose board of directors comprises the only elected body in Malaga.

On December 5, 1981, the health foundation and CRLA sponsored a community forum on toxic waste health hazards. Speakers included Jim Stahler, Bill Hage, and Dr. James Stratten from DOHS; Phil Traynor, Manager of the Malaga County Water District; Dr. Tony Molina, Director of the Sequoia Community Health Foundation; Dr. Phillip Polakoff, from the Western Institute of Occupational Environmental Services; and Assemblyman Art Torres, Chairman of the Assembly Health and Welfare Committee. The main issues discussed were the water quality in and around Malaga; the potential health effects from the site; and possible actions to remedy the situation. Dr. Stratten and Dr. Molina stated that no existing epidemiological evidence supported the Purity site as the cause of the miscarriages or hematuria. Community members expressed

*The health survey was in English, They were not told the survey was about Purity*

PDR240.082.

B-3

*and H.R.L.A. Did nothing until the 90's those are these people.*

Sequoia Clinic also reported 3 or 4 fetal deaths among Malaga residents during 1981. In a community meeting on May 26, 1982, other symptoms reported by community residents were patches of depigmentation on children's faces, headache, nausea and vomiting from the odors, difficulty breathing, pains in the chest, back and legs, dizziness, restlessness, tremors, tiredness, lethargy, depression, loss of appetite, weight loss, and earaches. There was a mention of 4 cancer deaths in the community during the last 12 years.

#### Rationale for conducting a community study around Purity

The community has expressed concerns regarding the health effects of living near a hazardous waste dumpsite, although there is yet no documentation that community exposure to the toxic materials in the dumpsite is occurring. The Epidemiological Studies Section (Ca DOHS) was requested to investigate and better define the situation. Despite our best attempts to ascertain anecdotal case reports with community residents and clinic personnel, we feel it is necessary to gather more information in a survey with open-ended questions. The only way to systematically collect this information with as little bias as possible is to do a cohort study, in the study area and in a similar area distant from the Purity site.

#### Selection of study and control areas

According to 1980 census data, the area around the Purity site is sparsely populated, except for the small trailer park adjacent to the site, and the community of Malaga, one-half to one mile away. We decided to include in our study area all households in the census blocks adjacent to the site, all households in a one half mile radius to the southeast of the dumpsite (leeward of the prevailing winds, according to the California Air Resources Board), and all households in the community of Malaga.

An equivalent community within Fresno county was sought to serve as a control. The 1980 census data available for 5 communities (Calwa, Del Rey, West Parlier, Parlier and Pinedale) were compared to the data for Census Tract 15, of which the study area is a small part. In addition, information about each area was obtained from Sequoia Clinic personnel and by personal inspection, since census statistics for Tract 15 did not reflect accurately the characteristics of the study area. The community of West Parlier was felt to resemble the study area the most, but in view of the fact that West Parlier has elevated levels of NBCP (1,2-dibromo-3-chloropropane) in the drinking water sources, it was decided that Pinedale (in Census Tract 44.01) would serve as the control community. A sample of approximately 400 households will be chosen from the 547 households in Pinedale by interviewing all households in randomly selected city blocks in the community.

#### Interview procedure

The survey instrument will be administered at each household by bilingual (English and Spanish) interviewers, in a face-to-face interview of one adult who will supply information of every member of the household. Four attempts will be made to contact each household. The interviews will be verified by short telephone calls to 10% of the study participants. Interviews, key entering of data, and editing the data tape will be conducted by Cal State

crops, vegetables, cotton, and pasture. The Contractor shall confirm these reports by visiting the Fresno Irrigation District and sites along the canal. During this field reconnaissance, the Contractor shall evaluate sites proposed for sampling canal water and bottom sediments for access and sampling suitability. The Contractor shall summarize the results of the surface water use survey in tabular form, defining the location, water use, and estimated volumes of water used at each turnout or other diversion. The summary shall include all such water use points above the point at which the North Central Canal empties into the Central Canal. The Contractor shall also prepare a map showing all connected surface water distribution systems downstream from the Purity Oil site.

1c Identification of Potential Off-Site Contamination Sources

To evaluate the contribution from the Purity Site to any off-site groundwater contamination, it is necessary to identify potential past and present off-site sources not originating from the Purity Site.

The Contractor shall identify potential past and present off-site sources of contamination by the following activities:

- . Augmenting existing aerial photographic interpretations conducted by the EPA and DHS with interpretations of any additional available photographic and other remotely sensed imagery covering the site.
- . Conducting a field reconnaissance in which aerial photo interpretations in the vicinity of the site will be field checked. Interviews with local planning and zoning commissions will be conducted, as well as interviews with property owners or tenants in the vicinity of the site.
- . Preparing a compilation of potential off-site sources of contamination in tabular form and plotting these potential sites on historical aerial photographs.

1d Background and Summary Report

The Contractor shall prepare a report summarizing the results of all pre-investigation activities. This summary report will provide the background to support the Site Investigation Work Plan. Prior to preparation, the report shall be submitted to EPA and DHS for review and comment.

The findings of the preinvestigation activities will be used to make any necessary modifications to the Site Investigation Work Plan. The Contractor shall provide this modified Site Investigation Work Plan to DHS and EPA for review and comment as part of the summary report at the end of the preinvestigation activities. Any significant changes to the site investigation plan that are required because of information obtained will be submitted to DHS and EPA for review and approval.

University (Fresno) personnel, under the supervision of Edward E. Nelson, PhD, director of the CSUF Social Research Laboratory.

### Survey instrument

The questionnaire will be provided in English and Spanish. The questions in it request age and sex information about each household member, length of residence at the present address, occupation, alcohol and tobacco consumption, and perception by the respondent of offensive odors. It will also include open-ended questions about health concerns (skin and lung problems, hematuria, headaches, toothaches, lost pregnancies, birth defects, cancer, deaths in the household).

### Analysis of data

The statistical analysis of the data will include comparisons between the frequency of various health concerns in the study and control areas, to determine whether any observed differences between areas were unlikely to have occurred by chance. Such differences might also occur as a result of an association between symptoms and other confounding factors which differ between the two communities. It is therefore necessary to examine whether differences in these factors could account for observed differences in health outcomes. This will be done initially by stratifying on possible confounding variables, and subsequently, if necessary, by performing multivariate analysis such as discriminant analysis and logistic regression.

### Presentation of results

The results of the study will be made public at community meetings and through newsmedia releases. The community will be given ample opportunity to discuss the significance and implication of the study results with the investigators.

JGR

*To this Date there's no signs posted. The Fencing there now is only a Front. They have no coverage to the Back at this site, Kids can enter. They have my Nephew, use to play on this open Field. They never warned no one when they were digging this site. The Dust was so lethal, I have metal Flakes, on my spine, and brain. I'm crippled to know at that Breathing it took my Life. Why didn't they warn us. Mexican's Don't come. Why.*

-4-



Preliminary Recommendations:

1. Groundwater wells should be resampled. Procedures should be employed to eliminate fugitive vapor emissions from the wells during sampling. Wells should be vapor sealed after sampling.
2. "Front yard" area should be secured due to presence of PCB which are in excess of California guidelines for PCB in soil.
3. Ambient air sampling should be repeated during "worst case" conditions to evaluate the potential for vapor emissions from the site at these times. "Worst case" would occur during hot, stagnant meteorological conditions.

Pick - Put  
~~Still~~ Still Leaking  
Back Fence

They have a entrance Fee at  
this Junk yard. Its used for  
toxic clean-up as it comes  
gets Been Known to Eat your  
tennis when you find a part you  
need - my close have melted  
on me when I've had my  
Fever's Do I sound like a  
alien hey I even glow Back  
M.R.I machine

■ ■ Section B  
■ ■ COMMUNITY RELATIONS BACKGROUND

SITE DESCRIPTION

The Purity Oil site is located approximately 2 miles south of Fresno in the unincorporated town of Malaga, California, in Fresno County. The site encompasses about 6 acres. The property is bounded to the north by a scrap metal recycling/reclamation facility, the Tall Trees Mobile Home Park, a combination gas station, market, and coffee shop, and Golden State Boulevard. An irrigation canal, a private residence, and an auto wrecking parts yard are located to the south. South Maple Avenue and a propane gas company are located to the east. The Atchison, Topeka, and Santa Fe railroad runs along the western boundary. The central residential area of Malaga lies within a 1-mile radius to the east and south of the site.

The community with the greatest potential exposure to the Purity site is the Tall Trees Mobile Home Park, adjacent to the site. The mobile home park contains approximately 65 units, with a population of 161 recorded in the 1980 census. It is a fairly transient community, although a few families have resided there for several years or return seasonally. Other Malaga residents living further from the site have also expressed concern about possible exposure through air, groundwater, and irrigation water contamination. The unincorporated town of Malaga contains a total of about 195 residences, with a population of 717 (1980 census). A number of businesses and industries are also located within Malaga. (Further information about the affected community is contained in the following two parts of this section.)

Purity Oil Sales, Inc., began operation in 1934 as a used oil re-refining industry. At this time, the company was owned by the Paraco Corporation. In 1964, the Pacific Petroleum Company purchased Purity from Paraco. In 1970, the company was purchased by Michael D. Marcus (deceased). Purity Oil ceased operation in 1975 after numerous complaints about operational problems. In 1979, the property was tax-deeded to Mr. William Enns. Mr. Enns disputed the sale in a suit settled September 16, 1982; as a result, the Purity property ownership reverted back to tax title status.

Oily liquid and sludge were disposed of on site for many years. Some liquid wastes remain in the concrete sump. Former sludge disposal ponds have been filled with construction debris. Testing has shown that soils throughout the site are contaminated with heavy metals and organics. Heavy metals that have been identified in high concentrations are arsenic, chromium, copper, lead, mercury, selenium, and zinc.

Potential Immediate Hazards Associated with the Purity  
Oil Sales Site, Malaga, Fresno County, California

000122

B3c (36)

The Department of Health Services (DOHS) has requested that EPA provide funding to perform several initial remedial measures to alleviate potentially serious safety problems associated with the Purity Oil Sales site. These potential problems were observed during the on-site activities associated with the remedial investigation, which EPA is funding. However, since the proposed actions involve removing materials to an off-site Class I disposal facility, they cannot be funded as initial remedial measures unless a focused feasibility study is conducted and a formal Record of Decision is approved. The focused effort required to obtain approval for these interim actions could delay the completion of the overall feasibility study for the site and subsequent final remedial action. Therefore, the Superfund Programs Branch would like to pursue the possibility of EPA performing these actions through its emergency response authorities.

DOHS requested funding for four separate actions, one of which was already completed concurrently with the remedial investigation activities conducted on-site. A brief description of the remaining three problems is presented below:

1) Existing open sump on-site: An existing open deep sump (20 feet x 55 feet x 5 feet) located in the front-yard area of the site contains oily waste (probably mixed with surface runoff water). This existing sump is a potential safety hazard to anyone who may be on-site (both authorized or unauthorized). Although the site is presently fenced, the fence has been cut in the past and children living nearby have been seen on the site. There are also areas in which children could climb over the fence. In an attempt to stop this from happening, the Fresno County Sheriff's Department (at DOHS's request) patrols the area around the site daily. In addition to the potential safety hazard, volatile organic emissions may occur during the hot summer months. Unfortunately, the contents of the sump was not sampled nor were surface air emissions measurements taken during the remedial investigation, because the lack of harness equipment did not allow such sampling to occur due to safety considerations.

DOHS has proposed removing the oily waste from the sump and disposing of it at a Class I disposal facility. The attached map shows the exact location of this sump on the Purity site.

2) Waste materials seeping into the North Central Canal: During site investigation activities, several areas were identified where oily/tarry waste was observed to have migrated off-site. Samples of this material indicated that the waste had the following general characteristics: very low pH (often <2.0); high levels of priority pollutant metals; and high levels of oil & grease and organic compounds, including many priority pollutants. In addition, quantitative surface air emissions measurements indicated that at some locations significant sulfur dioxide and organic compound

Those Family's Breathed  
it Daily and Are Being exposed to  
Air Borne.

Clayton Auernheimer, Norm Covell, Clinton Jones  
December 7, 1981  
Page 2

The issue of potential health effects was handled by Dr. Stratten and Dr. Molina. Both indicated that there is no epidemiological evidence to support Purity Oil as the cause of the miscarriages or blood in the urine. Dr. Molina stressed that three miscarriages is unusual within a one-year span. However, he also pointed out that the women were farm workers who could have been exposed to pesticides, that there was not record of pre-natal care by an M.D., that one woman had a previous history of miscarriage, and that nutrition could have been a factor. It was also pointed out by Dr. Stratten that the patients with blood in their urine were retested and it was found that only one patient subsequently had blood in his urine. That patient is now being treated for a kidney problem. *Lyers. no longer in SI next tissue samples*

There was also concern that the people of Malaga should have a comprehensive screening done to determine any effects on the residents. It was pointed out that mass screening is not required at this time. However, any children that have played on the site should be taken in and screened for heavy metals, most particularly, lead. I am wondering if a screening of those children residing adjacent to Purity Oil would not be appropriate at this time, if for no other reason than to obtain baseline data since the clean-up of the site may be a couple of years away. It would also minimize any bias in evaluation by the Sequoia Clinic due to their involvement in organizing the community on this issue.

The issue of remedial action was handled by Jim Stahler. A sampling and analysis program will begin this spring. Any immediate threat to health will be resolved soon thereafter and the site stabilized until funding is available for final remedial action. *Low Cost*

Superfund and state procedures were also discussed. A film was shown on ~~Three Mile Island~~ as well. The general tone of the meeting was to get the community organized to place pressure on the powers that be to act immediately. There was some fact twisting and sensationalism created by the organizers. I think that we can see a lot of pressure coming from the Malaga area to get something done immediately.

I think that we should meet with Dr. Withrow and Dr. Cobb in the near future to discuss what actions we may want to proceed with.

LSO/mv

*no longer Blood test  
Should be hair or tissue samples  
DIC*

### 3. Description of the Study Areas

For the purposes of analysis, the surveyed households were classified into three study areas:

- The "Close Blocks," represented on Figure 1 as the shaded area around the site. This area includes the trailer park next to the site (32 interviewed households), the houses on the same block as the site (three interviewed households), and the houses on the blocks immediately surrounding (11 interviewed households). Total: 46 interviewed households
- The community of Malaga: 175 interviewed households
- The community of Pinedale: 315 interviewed households

#### 3.1 Response Rates

The household response rates by study area are detailed in Table 3-1. At the time of the interviewing, about 10% of the known addresses in these areas turned out to be ineligible for interview because they were vacant, a business rather than a household, etc. Of the eligible addresses, approximately 15% of the households were not interviewed because they refused, were never home after four visits, or because they didn't speak English or Spanish. The percentage of households that refused to be interviewed in Pinedale (13%) was somewhat greater than the percentage in the Close Blocks and Malaga (7%), possibly reflecting less interest in the study among the Pinedale residents.

In 69% of all homes, a female adult served as the respondent. The median age of the respondents was 39 years. Seventy-five percent of the interviews were conducted in English, 25% in Spanish.

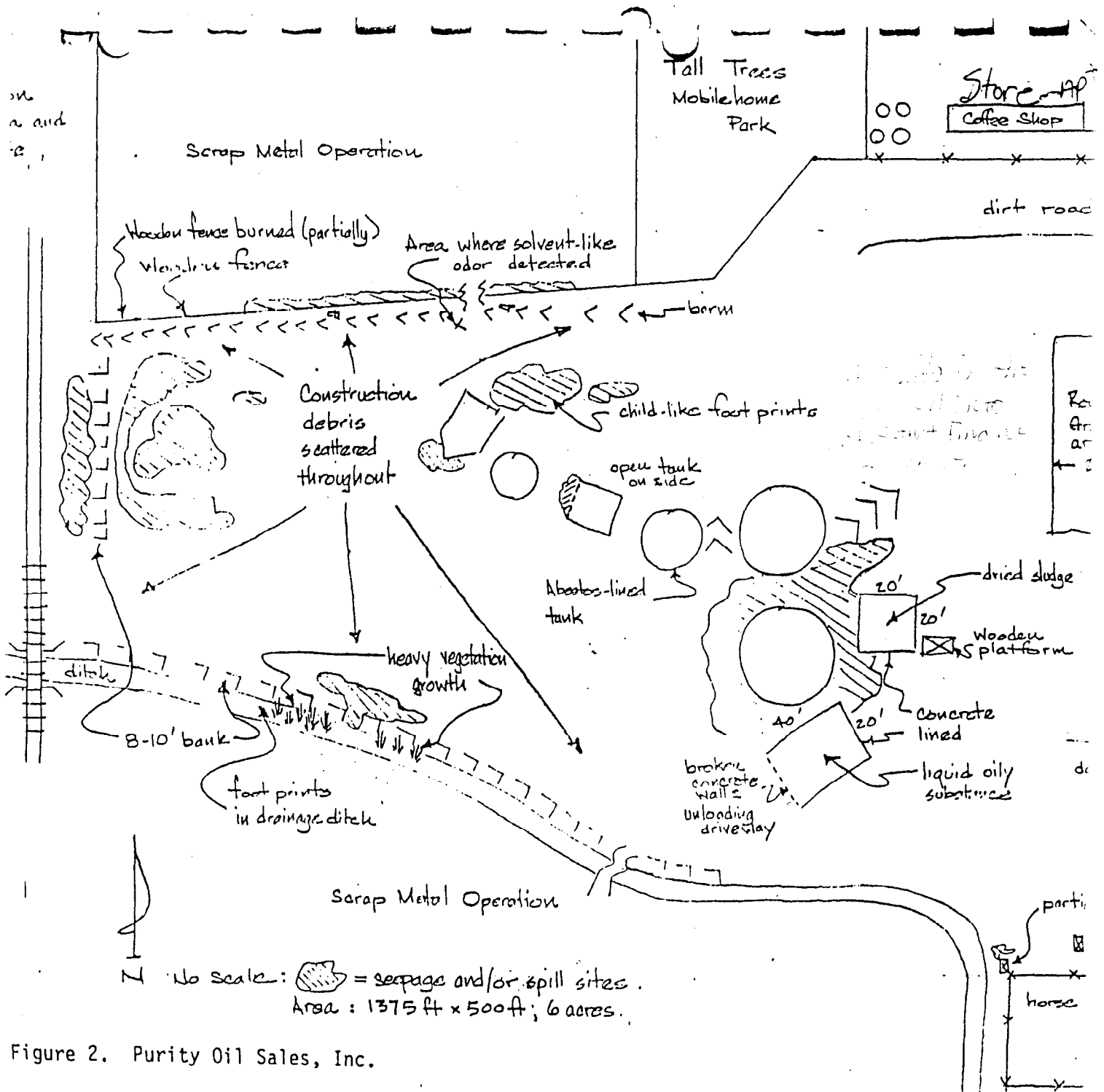


Figure 2. Purity Oil Sales, Inc.